## User's Guide

SAMSUNG LASER PRINTER
SMMSUNG DIGITall
everyone's invited

## LASER PRINTER

## ML-1200 Series

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## Environmental and Safety Consideration

## Laser Safety Statement

The printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class I(1) laser products, and elsewhere is certified as a Class I laser product conforming to the requirements of IEC 825.

Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

## WARNING

Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes.


CAUTION - INVISIBLE LASER RADIATION WHEN THIS COVER OPEN. DO NOT OPEN THIS COVER.

VORSICHT - UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE.EXPOSITION DAN GEREUSE AU FAISCEAU.
ATTENZIONE -RADIAZIONE LASER INVISIBILE IN CASO DI APERTURA. EVITARE L'ESPOSIZIONE AL FASCIO.
PRECAUCION -RADIACION LASER IVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.
ADVARSEL - USYNLIG LASERSTRÅLNING VED ÅBNING NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLNING.
ADVARSER - USYNLIG LASERSTRÅLNING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN. UNNGÅ EKSPONERING FOR STRÅLEN.
VARNING - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPAND OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN. STRÅLEN ÄR FARLIG.
VARO! - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.

## Ozone Safety

During normal operation, the Samsung ML-1200 Series printer produces ozone. The ozone produced does not present a hazard to the operator. However, it is advisable that the machine be operated in a well ventilated area.

If you need additional information about ozone, please request your nearest Samsung dealer.

## Pow er Saver



This printer contains advanced energy conservation technology that reduces power consumption when it is not in active use.

When the printer does not receive data for an extended period of time, power consumption is automatically lowered.

The energy star emblem does not represent EPA endorsement of any product or service.

## Radio Frequency Emissions

## FCC Regulations

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you must first stop operation of the equipment.

Use of shielded cable is required to comply with Class B limits in Subpart B of Part 15 of FCC Rules.

CAUTION: Changes or modifications not expressly approved by the manufacture responsible for compliance could void the user's authority to operate the equipment.

## Canadian Radio Interference Regulations

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Industry and Science Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", ICES-003 édictée par l'Industrie et Sciences Canada.

## Declaration of Conformity (European Countries) Approvals and Certifications

## C

The CE marking applied to this product symbolises Samsung Electronics Co., Ltd. Declaration of Conformity with the following applicable 93/68/EEC Directives of the European Union as of the dates indicated:

January 1, 1995: Council Directive 73/23/EEC Approximation of the laws of the member states related to low voltage equipment.

January 1, 1996: Council Directive 89/336/EEC (92/31/EEC), approximation of the laws of the Member States related to electromagnetic compatibility.

March 9, 1999: Council Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

A full declaration, defining the relevant Directives and referenced standards can be obtained from your Samsung Electronics Co., Ltd. representative.

EC Certification
Certification to 1999/5/EC Radio Equipment \& Telecommunications Terminal Equipment Directive (FAX)

This Samsung product has been self-certified by Samsung for pan-European single terminal connection to the analogue public switched telephone network (PSTN) in accordance with Directive 1999/5/EC. The product has been designed to work with the national PSTNs and compatible PBXs of the European countries:

In the event of problems, you should contact the Euro QA Lab of Samsung Electronics Co., Ltd. in the first instance.

The product has been tested against TBR21 and TBR 38. To assist in the use and application of terminal equipment which complies with this standard, the European Telecommunication Standards Institute (ETSI) has issued an advisory document (EG 201 121) which contains notes and additional requirements to ensure network compatibility of TBR21 terminals. The product has been designed against, and is fully compliant with, all of the relevant advisory notes contained in this document.

Introduction

Congratulations on the purchase of Samsung ML-1200 Series printer! This chapter provides information on the following topics:

- Special Features
- Printer Components


# Special Features 

Samsung ML-1200 Series is a versatile, productive printer equipped with special features that improve print quality, giving you a competitive edge. You can:

Print with excellent quality and high speed

- You can print at $\mathbf{6 0 0}$ dots per inch (dpi). See page 5.11.
- Your printer prints 12 pages-per-minute.

Handle paper flexibly

- Standard 150-sheet automatic input tray and a 1-sheet manual input tray support various sizes and types of paper.
- Two output locations: Select either the face-down output tray or the face-up output slot for the most convenient access.

Save your time and money


- You can use Toner Save mode to use less toner. See page 5.6.
- Print multiple pages on a single sheet of paper to save paper (N-up printing). See page 5.7.
- One-touch last page printing is allowed in the Ready mode. See page 5.20.
- The printer automatically conserves electricity by substantially reducing power consumption when not printing.
- This product meets Energy Star guidelines for energy efficiency.

Print in various environments

- You can print in Window 95/98/Me/NT 4.0/2000/XP.

Linux

- Your printer is compatible with the Linux system.

Create professional documents

- You can customize your documents by using Watermarks such as "Confidential." See page 5.13.
- Preprinted forms and letterheads can be printed on plain paper. See page 5.16.
- Print Posters. The text and pictures of each page of your document are magnified and printed across the selected sheet of paper. After the document has printed, trim off the white edges of each sheet. Tape the sheets together to form a poster. See page 5.9.

Print in various environments


- You can print in Windows 95/98/Me/NT 4.0/2000/ XP.
- Your printer is compatible with Linux and Macintosh.
- The ML-1200 Series printer comes with both Parallel (ML-1210 Only) and USB interfaces.


## Printer Components

## Front View



## Inside View



## Rear View



# Setting Up Your 

 PrinterThis chapter provides step by step information on setting up your printer. Topics included in this chapter are:

- TTEP 1: Unpack Your Printer
- STEP 2: Install the Toner Cartridge
- step 3: Load Paper
- Step 4: Connect to the Computer with a Parallel Cable (ML-1210 Only)
- step 5: Turn on the Printer
- step 6: Print a Demo Page!
- STEP 7: Install the Printer Software
- Installing Software from Diskette


## Unpack Your Printer

1 Remove the printer and all accessories from the packing carton. Make sure that your printer has been packed with the following items:

## Notes:

- If any items are missing or damaged, notify your dealer immediately.
- Components may differ from one country to another.
-The CD-ROM contains the printer driver, the User's Guide, the Adobe Acrobat Reader program and the $M$ ake Your Own Diskette setup software.


USB Cable
(ML-1220M Only)

2 Carefully remove all packing tapes from the printer.

3 Attach the supplied paper output support as shown.


## Install the Toner Cartridge

1 Grasp the front cover by both sides of the cover and pull it toward you to open.


2 Remove the toner cartridge from its bag and remove the paper covering the toner cartridge completely out of the cartridge. Discard the paper.


3 Gently shake the cartridge from side to side to distribute the toner evenly inside the cartridge.

## CAUTION:

To prevent damage, do not expose the
 toner cartridge to light for more than a few minutes. Cover it with a piece of paper, if left exposed for more than a few minutes.

If toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot w ater sets toner into fabric.

4 Locate the cartridge slots inside the printer, one on each side.


2

5 Grasp the handle and insert the cartridge in the printer until it snaps into place.


6 Close the front cover. Make sure that the cover is securely closed.


Note: When printing text at $5 \%$ coverage, you can expect a toner cartridge life of approximately 2,500 pages ( 1,000 pages for the toner cartridge that is shipped with the printer).

## Loading Paper

1 Pull the paper support on the automatic input tray up, until it stops.


2 Before loading the paper, flex the sheets back and forth to loosen them, then fan them.

Tap the edges of the stack on a table top to straighten them to prevent paper jams.


3 Load a stack of paper into the automatic input tray with the print side facing up.


4 Do not load too much. This tray holds up to 150 sheets.

Keep the paper below this height mark.


2

5 Adjust the paper guides to the width of the paper stack.


Notes:

- Do not push the width guide far enough to cause the media to warp.
- If you do not adjust the width guide, it may cause paper jam.
- If you are needed to add more sheets of paper while printing, remove the remaining paper from the tray at first. Then, reinsert them with the new paper. Note that adding new paper into the remains in the tray may cause paper jams or multiple feeding.


## Connect to the Computer with a Parallel Cable (ML-1210 Only)

Note: To connect the printer to the parallel port of the computer requires a certified parallel cable.
You will need to buy the IEEE1284 compliant cable.

1 Make sure both the printer and the computer are turned off.

2 Plug the parallel printer cable into the connector on the back of the printer.

Push the metal clips down to fit inside the notches on the cable plug.

3 Connect the other end of the cable to the parallel interface port on your computer, and tighten the screws.

See your computer documentation if you need help.


## If you are using a USB interface

Go to "Installing USB driver in Windows" on page A. 10 .


## Turn on the Printer

1 Plug the power cord into the power receptacle on the back of the printer.

2 Plug the other end into a properly grounded AC outlet.

3 Turn on the power.


2

## Print a Demo Page!

As the printer powers up, all the printer control panel lights turn on briefly. When only the Data light remains on, press and hold the Demo button.

Hold down the button for about 2 seconds until all lights blink slowly, then release, the demo page will print.

The demo page provides a sample of the print quality and helps you verify the printer is printing correctly.


Included with your printer is a CD-ROM containing the printer driver for some of the most popular Windows software applications. To operate your printer, you must install a printer driver, which translates data from your application into data that the printer understands.

## If you are printing with a parallel interface (ML-1210 Only)

Go to page 2.9 for information on installing the print software on a computer that is attached directly to the printer with a parallel cable.

## If you are printing with a USB interface

Go to "Installing USB driver in Windows" on page A.10, for information on installing the print software on a USB-enabled computer.

## If you are printing from Macintosh

Go to "Using Your Printer with a Macintosh" on page A.17, for information on installing the print software and printing from Macintosh.

## If you are printing in Linux

Go to "Linux Driver Installation" on page A.24, for information on installing the Linux driver.

## Before Installing the Printer Softw are

Verify the following:

- At least $\mathbf{1 6}$ MB or more of RAM is installed on your PC.
- There is at least $\mathbf{5 0} \mathbf{~ M B}$ of free disk space on your PC.
- All applications are closed on your PC before beginning installation.
- Windows 95, Windows 98, Windows Me, Windows NT 4.0, Windows 2000, Windows XP.


## Installing the Printer Softw are from the CD-ROM



Note: If the New Hardware Found box appears during the installation procedure, click the $\triangle$ in the upper right corner of the box, or click Cancel.

1 Place the CD-ROM in the CD-ROM drive. Installation will start automatically.

If the CD-ROM drive does not automatically run:
Select Run from the Start menu, and type $\mathbf{x}$ : \cdsetup.exe in the Open box (where $\mathbf{x}$ is the drive letter for the CD-ROM drive), then click OK.


2 When the opening screen appears, select the appropriate language.

3 Click Install the Samsung Software on your PC.


4 The Welcome window opens. Click Next.


5 The files are copied into the appropriate directory.

6 Click Finish.


## Softw are Installation Tips

I do not have a CD-ROM drive

How do I access printer features ?

How do I remove the printing software ?

If you have access to another computer with a CD-ROM drive, you can use Make diskette utility in Windows to create the disks you need for the installation. Go to "Installing Software from Diskette" on page 2.13.

Some printer features, such as paper size and page orientation, may be available through your application settings. Use application settings, if available, because they override printer driver settings.

Access advanced printer features through your printer driver. See the chapter 5, "Printing Tasks" for instructions on using your printer driver features.

In Windows, after installation, the Uninstall icon in the Samsung ML-1200 Series program group allows you to select and remove any or all of the Samsung ML-1200 Series printing system components. If you are upgrading the printer driver, or if your installation fails, uninstall the driver doing as the following instructions.

1 From the Start menu, select Programs.

2 Select Samsung ML-1200 Series, and then Samsung ML-1200 Series Driver Maintenance.


3 When your computer confirms your selection, click OK.

4 The Samsung ML-1200 Series printer driver and all of its components are removed from your computer.


## 5 Click Finish.

## If you have installing problems

- Exit your software programs. Then turn off the computer and the printer. Turn on the printer, then turn on the computer.
- Close any virus protection programs that are running on your computer.
- Uninstall the printer software using the instruction above, then repeat the installation procedure.

Can I use this printer in the other OS?

The Samsung ML-1200 Series Printer supports the Linux system. Go to "Linux Driver Installation" on page A. 24 for information on installing the Linux driver.

## Installing Software from Diskette

If you do not have a CD-ROM drive and if you have access to another computer with a CD-ROM drive, you can copy software installation files from your printer software CD-ROM onto floppy diskettes, then use the diskettes instead of the CD-ROM to install the software.

## Making Installation Diskettes

You can make the installation diskettes for Samsung ML-1200 Series printer driver. Make sure that you have several formatted diskettes ready, then follow these steps:

1 Insert the CD-ROM shipped with your printer into the CD-ROM drive. Installation will start automatically.

If the CD-ROM drive does not automatically run:
Select Run from the Start menu, and type $\mathbf{x}$ : \cdsetup.exe in the Open box (where $\mathbf{x}$ is the drive letter for the CD-ROM drive), then click OK.

2 When the opening screen appears, select the appropriate language.

3 Click Make your own Diskette set of software.


4 The Copy to Floppy dialog box appears.
Select the floppy disk drive you will use to insert the diskette.


## 5 Click Copy all disk images.

If you want to copy a portion of the selected component, select the disk you want to copy in the Disk Images window, then click Copy selected disk image.

6 When prompted, insert a blank, formatted diskette into the floppy drive, and click Yes to copy the first diskette. For multiple diskettes, when the first diskette is finished, you are prompted to insert disk 2.

Make sure you label each diskette in order as you create it: Samsung ML-1200 Series driver, disk 1 of 2, etc.

7 If you have more than one disk, insert the next disk and click Yes.

8 When copying to diskettes has been completed, click Close in the Copy to Floppy dialog box. Then click Exit in the SAMSUNG PRINTER SETUP dialog box.

## Installing Softw are

To install the printer driver from the diskettes, take the following steps:

1 Insert the first diskette (if the selected software diskettes are more than one).

2 From the Start menu, select Run.


3 Type A: \setup.exe in the Open box and click OK. (if your floppy drive is not $\mathbf{A}$, substitute the correct letter.)

4 Follow the on-screen instruction to complete the installation.
chapter

## Using Control

## panel

This chapter describes how to use the printer's control panel. It provides information on the following topics:

- Control Panel Buttons
- Control Panel Lights


## Control Panel Buttons

The printer has three buttons: Toner Save, Cancel/Reprint and Demo.


Print demo page
Press and hold Demo for about 2 seconds until the control panel lights blink slowly to print a demo page. The printer must be in the Ready mode.

## Start manual feeding

When you select Manual for Paper Source from your software application, you should press Demo each time you load a sheet of paper manually. For further information, see "Using the Manual Input tray" on page 4.5 .

## Clean the inside of the printer

Press and hold Demo for about 10 seconds until the control panel lights remain lit. After cleaning the printer, one cleaning sheet prints. For further information, see page 6.5.

Cancel/Reprint


## Cancel job

Press Cancel/Reprint and hold until the control panel lights blink to cancel a job the printer is currently printing. The Error light will blink while the print job is cleared from both the printer and the computer, and then return to the Ready mode. This may take some time, depending on the size of the print job.

Note: If the Cancel/Reprint button is accidentally pushed, the job must be reprinted. There is no undo function.

## Reprint last page of the job

If you press Cancel/Reprint in the Ready mode, the printer prints the last page of the last print job. See page 5.20.
(on)
(off)

## Turn the Toner Save Mode on/off

Press Toner Save to turn the Toner save mode on or off. The printer must be in the Ready mode.

- If the button backlight is on, toner save mode activates and the printer uses less toner to print a document.
- If the button backlight is off, toner save mode is disabled and you will print in normal quality.

To enable or disable the Toner Save mode using this button, the Toner Save Mode option in the printer driver must be set to Printer Setting.

For further information on the Toner Save mode, see page 5.6.

## Control Panel Lights

The control panel lights indicate the status of your printer. If the Error light is on, the printer is experiencing an error. See "Troubleshooting Error Messages" on page 7.17.

## Control Panel Light Message

## $\begin{array}{ccc}\text { Error } & \text { Paper } & \text { Data } \\ 0 & 0 & 0\end{array}$ <br> Ready mode

The Data light is on and the printer is ready to print.
No action is needed. If you press and hold the Demo button for about 2 seconds, a demo page will print.


## Processing

The printer is receiving or processing data. Wait for the job to print.
Pressing the Cancel/Reprint button cancels the current job. One or two pages may print as the printer clears the print job. The printer will return to the Ready mode after the job has been canceled.


## Paper out

The printer is out of paper.
Load paper into the printer. For the automatic tray, there is no need to press any button to reset. For the manual tray, press the Demo button after loading.


## Waiting the Demo button to be pressed

In the Manual Feed mode, the printer is waiting the Demo button to be pressed.
Press the Demo button to start printing. You must press the button to print each page after loading paper into the manual input tray.

This chapter will help you understand the types of paper you can use with the Samsung ML-1200 Series printer and how to properly load paper in the input trays for the best print quality.

Topics included in this chapter are:

- Choosing Paper and Other Media
- Selecting the Output Location
- Loading Paper
- Printing on Envelopes
- Printing on Heavy Paper
- Printing on Labels
- Printing on Transparencies
- Printing on Preprinted Paper
- Printing on Card Stocks


## Choosing Paper and Other Media

You can print on a variety of print media, including plain paper, envelopes, labels, transparencies and card stock. See "Paper Specifications" on page A.2. For the best possible print quality, use only high-quality copier-grade paper.

When you choose print media, consider the following:

- Desired outcome: The paper you choose should be appropriate for the project.
- Size: You can use any size paper that fits easily within the adjusters of the paper tray.
- Weight : Your printer supports the following paper weights:
- $16 \sim 24 \mathrm{lb}$ bond for the automatic input tray
- $16 \sim 43 \mathrm{lb}$ bond for the manual input tray
- Brightness: Some paper is whiter than others and produces sharper, more vibrant images.
- Surface smoothness: The smoothness of the paper affects how crisp the printing appears on paper.

CAUTION: Using media that does not conform to the specifications listed in this section can cause problems that may require service. This service is not covered by the warranty or service agreement.

## Choosing Paper and Other Media

## Media Sizes and Capacities

| Media Size | Input Source/Capacity* |  |
| :---: | :---: | :---: |
|  | Automatic Input Tray | Manual Input Tray |
| Plain Paper |  |  |
| Letter ( $8.5 \times 11 \mathrm{in}$.) | 150 | 1 |
| Legal ( $8.5 \times 14 \mathrm{in}$.) | 150 | 1 |
| Executive ( $7.25 \times 10.5 \mathrm{in}$.) | 150 | 1 |
| A4 ( $210 \times 297 \mathrm{~mm}$ ) | 150 | 1 |
| A5 ( $148 \times 210 \mathrm{~mm}$ ) | 150 | 1 |
| A6 ( $105 \times 148 \mathrm{~mm}$ ) | 50 | 1 |
| Folio (8.5 $\times 13 \mathrm{in}$.) | 150 | 1 |
| B5 ( $182 \times 257 \mathrm{~mm}$ ) | - | 1 |
| Envelopes |  |  |
| No. 10 (4.12 9.5 in .) | 5 | 1 |
| DL ( $110 \times 220 \mathrm{~mm}$ ) | 5 | 1 |
| C5 ( $162 \times 229 \mathrm{~mm}$ ) | 5 | 1 |
| C6 (114 x 162 mm ) | 5 | 1 |
| B5 ( $176 \times 250 \mathrm{~mm}$ ) | 5 | 1 |
| Monarch ( $3.87 \times 7.5 \mathrm{in}$.) | 5 | 1 |
| Labels |  |  |
| Letter (8.5 $\times 11 \mathrm{in}$.) | 5 | 1 |
| A4 ( $210 \times 297 \mathrm{~mm}$ ) | 5 | 1 |
| Transparency film |  |  |
| Letter ( $8.5 \times 11 \mathrm{in}$.) | 5 | 1 |
| A4 ( $210 \times 297 \mathrm{~mm}$ ) | 5 | 1 |
| Card stock | 5 | 1 |
| Bond Paper | 5 | 1 |
| Thin Paper ( $12 \mathrm{lb} \sim 16 \mathrm{lb}$ ) | 150 | 1 |
| Thick Paper ( $24 \mathrm{lb} \sim 43 \mathrm{lb}$ ) | 5 | 1 |

[^0]When selecting or loading paper, envelopes, or other special media, keep these guidelines in mind:

- Attempting to print on damp, curled, wrinkled, or torn paper can cause paper jams and poor print quality.
- Use cut-sheet paper only. You cannot use multiply forms.
- Use only high-quality, copier grade paper.
- Do not use paper that has been printed on or that has been fed through a photocopier.
- Do not use paper with irregularities, such as tabs or staples.
- Do not attempt to overload the tray during printing.
- Avoid paper with embossed lettering, perforations, or texture that is too smooth or rough.
- Colored paper should be of the same high quality as white photocopy paper. The pigments must withstand the printer's fusing temperature of $400^{\circ} \mathrm{F}\left(205^{\circ} \mathrm{C}\right)$ for 0.1 second without deterioration. Do not use paper with a colored coating that was added after the paper was produced.
- Preprinted forms must be printed with nonflammable, heatresistant inks that do not melt, vaporize, or release hazardous emissions when subject to the printer's fusing temperature.
- Store paper in its ream wrapper until ready for use. Place cartons on pallets or shelves, not on the floor.
- Do not place heavy objects on top of the paper, whether it is packaged or unpackaged.
- Keep paper away from moisture, direct sunlight or other conditions that can cause wrinkle or curl.


## Selecting the Output Location

The printer has two output locations: the face-up output slot and the face-down output tray. You can select the output location by changing the position of the output lever on the front of the printer. To use the face-down output tray, be sure the output lever is in upper (normal) position. To use the face-up output slot, push the output lever down.

- If paper coming out of the face-down output tray has problems, such as excessive curl, try printing to the face-up output slot.
- To avoid paper jams, do not change the position of the output lever while printing.


## Printing to the Face-Dow n Output Tray

The face-down output tray collects paper in face-down order. To use, make sure the output lever is in the upper position. (If it is not, push it up)

The face-down output tray should be used for most print jobs and is recommended when printing large jobs.


## Printing to the Face-Up Output Slot

The printer prints to the face-up output slot if open. Push the output lever down to open the slot. Paper will come out of the printer face-up.

Using the face-up output slot might improve output quality with the following:

- envelopes
- labels
- Transparency films
- paper heavier than $24 \mathrm{lb}\left(90 \mathrm{~g} / \mathrm{m}^{2}\right)$



## Loading Paper

Proper paper loading helps prevent paper jams and insures trouble-free printing. Do not remove paper from the tray(s) while a job is printing. Doing so may cause a paper jam.

## Using the Automatic Input Tray



The automatic input tray holds 150 sheets of paper and five sheets of special media. See "Media Sizes and Capacities" on page 4.2 for acceptable paper size and capacities for each input tray.

Load a stack of paper into the automatic input tray and print. For details on loading paper in the automatic input tray, see "Loading Paper" on page 2.4.

Note: Before using the automatic input tray, you must remove the paper from the manual input tray.

## Using the Manual Input Tray

If you select Manual in the Paper Source option, you can manually load paper in the manual input tray. Manually loading paper can be helpful when you want to check the print quality after each page is printed.

If you experience a paper jam from the automatic input tray, load one sheet of paper at a time into the manual input tray.

Note: To avoid a paper jam, use the manual tray with the automatic input tray loaded with paper.

1 Load the print media in the manual input tray with the print side up.

Adjust the paper guide against the stack of print media without bending the stack.


## Loading Paper

2 Push the output lever down to open the face-up output slot.


3 When you print a document, you must select Manual for Paper Source from the software application, and then select the correct paper size and type. For details, see page 5.3.


4 Print the document.

5 If you are printing multiple pages, load the next sheet after the first page prints out.

6 Press Demo to start feeding.


Notes:

- The face-up output slot may not hold the printed pages properly.
- The printed pages will not stack in the face-down output tray unless you change output lever position. After you finish using the face-up output slot, you must change the position of the output lever to the normal position by pushing it up.


## Printing on Envelopes

## Guidelines

- Only use envelopes recommended for laser printers. Before you load envelopes in the input tray, make sure that they are undamaged and are not stuck together.
- Do not feed stamped envelopes.
- Never use envelopes with clasps, snaps, windows, coated lining, or self-stick adhesives as these envelopes may severely damage the printer.

1 Flex or fan the envelopes before loading.


2 Load the envelopes into the input tray with the flap side down.

The stamp area is on the right side and the end of the envelope with the stamp area enters the tray first.


Adjust the guide to the edge of the envelope stack.


4 Push the output lever down.


5 When you print on envelopes, configure the paper source, type and size properly in the software application. For details, see page 5.3.
Papeipure
Marual
Paperspo
[5Emx. [162x229 m]
Efniope

6 Print the document.

7 After printing, push the output lever up.


## Printing on Heavy Paper

## Guidelines

- Heavy paper is any paper heavier than $24 \mathrm{lb}\left(90 \mathrm{~g} / \mathrm{m}^{2}\right)$. For cotton papers, you can use 24 lb paper. The maximum paper weight available for your printer is $43 \mathrm{lb}\left(163 \mathrm{~g} / \mathrm{m}^{2}\right)$.
- Do not use extremely heavy paper stock (greater than 43 lb , or $163 \mathrm{~g} / \mathrm{m}^{2}$ bond). Misfeeds, mis-stacking, media jams, poor toner fusing, poor print quality, and excessive mechanical wear can result.

1 Load paper in the input tray with the print side up.

Adjust the guide to fit the width of the labels.

2 Push the output lever down.


3 When you print on heavy paper, select Bond in the Paper Type section, and then configure the paper source, and size in the software application. For details, see page 5.3.


## Printing on Labels

## Guidelines

- Only use labels recommended for laser printers.
- Verify that the labels' adhesive material can tolerate a fusing temperature of $200^{\circ} \mathrm{C}$ (392 ${ }^{\circ}$ F) for 0.1 second.
- Make sure that there is no exposed adhesive material between the labels. Exposed areas can cause labels to peel off during printing, cause paper jams. Exposed adhesive can also cause damage to printer components.
- Do not feed a sheet of labels through the printer more than once. The adhesive backing is designed for one pass through the printer.
- Do not use labels that are separating from the backing sheet or are wrinkled, bubbled, or otherwise damaged.

1 Load labels in the input tray with print side up.

Adjust the guide to fit the width of the labels.

2 Push the output lever down.


3 To print on labels, configure the paper source, type and size in the software application. For details, see page 5.3.

Note: To prevent labels from sticking, do not let the printed label sheets stack up as they are printed out.

## Printing on Transparendes

## Guidelines

- Only use transparencies recommended for use in laser printers.
- Insure transparencies are not wrinkled, curled, or have any torn edges.
- Hold the transparencies by the edges and avoid touching the print side. Oils deposited on the transparency can cause print quality problems.
- Be careful not to scratch or leave fingerprints on the print side.

1 Load transparencies in the input tray with print side up, and the top with the adhesive strip going first.

Adjust the guide to fit the width of the transparencies.

2 Push the output lever down.


3 To print on transparencies, configure the paper source, type and size in the software application. For details, see page 5.3.

## Notes:

- To prevent transparencies from sticking, do not let the printed sheets stack up as they are printed out.
- Place transparencies on a flat surface after removing them from the printer.



## Printing on Preprinted Paper

## Guidelines

- Letterhead must be printed with heat-resistant ink that will not melt, vaporize, or release hazardous emissions when subjected to the printer's fusing temperature of $400^{\circ} \mathrm{F}$ ( $205^{\circ} \mathrm{C}$ ) for 0.1 second.
- Ink on letterhead must be non-flammable and should not adversely affect any printer rollers.
- Forms and letterhead should be sealed in moisture-proof wrapping to prevent changes during storage.
- Before loading preprinted paper as forms and letterhead, verify that the ink on the paper is dry. During the fusing process, wet ink can come off preprinted paper.

1 Load letterhead into the input tray with the design face up, bottom edge toward the printer.

Adjust the guide to fit the width of the paper stack.


2 To print on preprinted paper, configure the paper source, type and size in the software application. For details, see page 5.3.

| Paper Source: |
| :--- |
| Auto Select <br> Paper Size: <br> Letter $(8.5 \times 11 \mathrm{in}$ ] <br> Paper Iype: <br> Preprinted |

## Printing on Card Stods

Postcards, $3^{\prime \prime} \times 5^{\prime \prime}$ index cards can be printed with the Samsung ML-1200 Series printer.

## Guidelines

- Insert the short-edge first into the input tray. To print in landscape mode, make this selection through the software. Inserting paper long-edge first may cause a paper jam.
- Do not print on card stock that is too small or too large. The minimum size is $76 \times 127$ $\mathrm{mm}\left(3^{\prime \prime} \times 5^{\prime \prime}\right)$ for the manual input tray and $95 \times 127 \mathrm{~mm}\left(3.8^{\prime \prime} \times 5^{\prime \prime}\right)$ for the automatic input tray, and the maximum size is $216 \times 356 \mathrm{~mm}\left(8.5^{\prime \prime} \times 14^{\prime \prime}\right)$.
- Set margins at least 6.4 mm ( 0.25 in .) away from the edges of the media in the software application.

1 Load print media in the input tray with print side up, short edge first .

Adjust the guide to fit the width of the media.

2 Push the output lever down.



3 Configure the paper source, type in the printer driver's properties (see page 5.3) and print.

Paper Source:
Manual
Paper Size:
Letter ( $8.5 \times 11 \mathrm{in}$.)

## Paper Iype:

Card Stock
$\checkmark$

## Printing Tasks

This chapter explains the printing options and common printing tasks.

Topics included in this chapter are:

- Printing a Document
- Using Toner Save Mode
- Printing Multiple Pages on One Sheet of Paper (N-Up Printing)
- Fitting a Document to a Selected Paper Size
- Printing Posters
- Setting Graphic Properties
- Printing Watermarks
- Using Page Overlay
- Reprinting the Last Page
- Printing in a Network Environment

This procedure describes the steps required for printing from various Windows applications. The exact steps for printing a document may vary depending upon the application program. Refer to your software application's documentation for the exact printing procedure.

1 Open the document to print.

2 Select Print from the File menu. The Print dialog box is displayed (the Print dialog box for your application may look slightly different.).

The basic print settings are selected within the Print dialog box. These settings include the number of copies, paper size, and page orientation.

> If you see a Properties button, click it. If you see Setup,
> Printer, or Options, click that button instead; then click Properties in the next screen.


3 To take advantage of the printer features, click Properties in the application's print dialog box and go to step 4.

If you see Setup, Printer, or Options, click that button instead. Then click Properties in the next screen.

4 The Properties dialog box allows you to access and change printer settings.

If necessary, click the Paper tab to display the settings shown below. The Paper tab allows you to change the settings for basic paper handling.


Paper 5ouce
4ad Select
Moner:
44 [210: 287 m ]


## Paper Option

Paper Orientation


Select Auto Select from the Paper Source options box unless you are printing with special media. To print with special media, select Manual and feed one sheet at a time into the printer. See page 4.5.

Select Plain Paper from the Paper Type options box unless you want to use a different kind of print media. To use a different kind of media, select the corresponding print media name in the Paper Type options box. For more information, refer to Chapter 4 'Print Media'.

Select the paper size you have loaded in your printer.

The Paper Orientation option allows you to select the direction in which information is printed on a page.
Portrait prints across the width of the page, letter style.
Landscape prints across the length of the page, spreadsheet style.


You can also see the printable area.

5 Click the other tabs on the top of the Properties dialog box to access other features.

6 When you complete the print settings, click OK until the Print dialog box is displayed.

7 Click OK to start printing.

## Notes:

- Most W indows applications will override settings you specify in the printer driver. Change all print settings available in the software application first, then change any remaining settings using the printer driver.
- The settings you change remain in effect only while you are using the current program. To make your changes permanent, make them in the Printers folder as follow s:

1. Click the W indows Start button.
2. Select Settings, then Printers to open the Printers window.

3. Select the Samsung ML-1200 Series printer icon.
4. Click the right mouse button and select Properties to open the properties window.

## Canceling a Print Job

There are two ways to cancel a print job.

## To stop a print job from your printer

Press the Cancel/Reprint button and hold until the control panel lights blink to cancel a job the printer is currently printing.


The printer will finish printing the page and delete the rest of the print job while the Error light is blinking. Pressing
Cancel/Reprint cancels only the current job in the printer. If more than one print job is in the printer memory, Cancel/Reprint must be pressed once for each job.

## To stop a print job from the Printers folder

1. From the Start menu, select Settings.
2. Select Printers to open the Printers window, then doubleclick the Samsung ML-1200 Series icon.
3. From the Document menu, select Cancel Printing (Windows $9 x / \mathrm{Me}$ ) or Cancel (Windows NT 4.0/2000/XP).

## Using Help



The Samsung ML-1200 Series printer has a help screen that can be activated by the Help button in the printer's properties dialog box. You can also click ? from the upper right hand corner, and then click on any setting.

These help screens give detailed information regarding the printer features provided by the Samsung ML-1200 Series printer driver.

To restore the default printer properties setting when you change the print settings, click Default in the Samsung ML-1200 Series Properties dialog box.

## Using Toner Save Mode

Toner Save mode allows the printer to use less toner on each page. Selecting this option will extend the life of your toner cartridge and reduce your cost per page without a significant reduction in print quality.

There are two ways to enable the Toner Save mode:

## To enable this feature from your printer

Press the Toner Save button on the control panel. The printer must be in Ready mode (Data light is on).


- If the button backlight is on, toner save mode activates and the printer uses less toner to print a page.
- If the button backlight is off, toner save mode is disabled and the printer prints in a normal mode.

Note: To enable or disable the Toner Save mode from the control panel, the Toner Save Mode option in the printer driver must be set to Printer Setting. See below.

## To enable this feature from the software application

1 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.
2 Click the Graphic tab, and select the Toner Save Mode option. You have the following options:

- Printer Setting: If you select this option, this feature is determined by the setting you've made on the control panel of the printer.
- Standard: If you don't need to save toner to print a document, select this option.
- Save: Select this option to allow the printer to use less toner on each page.

3 Click OK.

## Printing Multiple Pages on One Sheet of Paper (M.V.v Pinting)



4 pages per sheet


A 9 pages per sheet

You can select the number of pages to print on a single sheet of paper. To print more than one page per sheet, the pages will appear decreased in size and arranged on the sheet. You can print up to 16 pages on one sheet.

1 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.

From the Paper tab, select the paper orientation, source, size and type.

2 Click the Output tab, and choose Multiple Pages per Side in the Type drop-down list. Then select the number of pages you want to print per sheet ( $1,2,4,9$ or 16 ) in the Pages per Sheet drop-down list.

3 Click Print Page Borders to print a border around each page on the sheet. Print Page Borders is enabled only if the Pages per Sheet is $2,4,9$, or 16 .


4 Click OK to start printing.

## Fitting a Document To a Selected Paper Size



This feature allows you to scale your print job to any selected paper size regardless of the digital document size. This can be useful for checking fine details on a small document.

1 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.

2 Click the Output tab, and select Fit to Page in the Type drop-down list.

3 You'll see the Application page size and be prompted to select the Fit to Paper Size. Select the correct size from the drop-down list.


4 Click OK to start printing.

## Printing Posters



Poster printing allows you to print a single-page document onto 4,9 , or 16 sheets of paper, which can be pasted together to form one poster-size document.

1 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.

From the Paper tab, select the paper orientation, source, size and type.

2 Click the Output tab, and select Poster in the Type drop-down list.


3 To determine the scaling factor, select the Style; $\mathbf{2 x 2}, \mathbf{3 x 3}$, $4 \times 4,5 \times 5$ or $6 \times 6$.

For example, if you select $\mathbf{2 x 2}$, the output will be automatically stretched to cover four physical pages.


4 You can specify an overlap in pixels to reconstruct the resulting poster.


5 Click OK to start printing.

## Setting Graphic Properties

Use the following options to adjust the print quality for specific printing needs when you access the printer properties. See page 5.1 for more information on accessing printer properties.

Click the Graphic tab to display the settings shown below.


Click here to save the changes when setting is done.

1. vark
$\Gamma$ Dark Text
$\Gamma$ All Text to Black

- Printer Optionne⿻u一iri!

When the "Dark Text" is checked, all text in your document is allowed to print darker than normal document.

When the "All Text To Black" is checked, all text in your document is allowed to print solid black, regardless of the color it appears on the screen. When it is not checked, colored text is allowed to print in shades of gray.

Resolution

Resolution
You can select the printing resolution by choosing either 300 dpi or 600 dpi. The higher the setting, the sharper the clarity of printed characters and graphics. Higher settings may increase the time it takes to print a document.

## Setting Graphic Properties

Darkness
Use this option to lighten or darken the image appearance of your print jobs.

```
Darkness
C Normal
a) \(C\) Light
CDark
```

- Normal - For normal documents.
- Light - For bolder line widths or darker gray-scale images.
- Dark - For finer line width, higher definition in graphics, and lighter gray-scale images.


## Reprint

Repin: : $\quad$ On

You can set the printer to reprint the last page of the last job when the Cancel/Reprint button is pressed. For details, see 'Reprinting the Last Page' on page 5.20.

## Reprint When Jam



With this option On, the printer stores the image for a printed page until the printer signals that the page has successfully exited the printer. If a paper jam occurs, the printer will automatically reprint all jammed pages after the jam is cleared.

Power Save Mode


To conserve power when the printer is idle, set the printer to enter a reduced power state after completing a print job, according to a time specified in the Power save Mode box.

Select the desired length of time from the drop-down list.
If your printer is constantly in use, select OFF to keep the printer ready with the minimum warm-up time. This uses more energy to keep the printer ready to print.

With this option checked, you can optimize the print quality for a low pressure area, such as a high ground.

[^1]
## Printing Watermarks



The Watermark option allows you to print text over an existing document. For example, you may want to have large gray letters reading "Draft" or "Confidential" printed diagonally across the first page or all pages of a document.

There are several predefined watermarks in the ML-1200 Series printer, these can be modified or you can add new ones to the list.

## To use an existing w atermark

1 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.

2 Click the Watermark tab and select the desired watermark in the Message drop-down list. You will see the selected watermark in the preview window.


3 Click OK to start printing.

To create or edit a watermark

1 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.

2 Click the Watermark tab, and enter the desired text message in the Text field. This will be displayed in the preview window. The preview window is provided so that you can see how the watermark will appear on the printed page.

3 Select the desired watermark options. You can select the font type and size, color and angle. There are three checkboxes at the bottom of the dialog box:

- Transparent Text - Allows the document to show through the watermark.
- As Outline Only - Prints the text outline of the watermark. This setting globally effects all watermarks in the list.
- On First Page Only - Prints the watermark only on the first page.



## Henwen

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4 If you have created a new or edited an existing watermark, the Add and Update button is enabled.

To add a new watermark to the list, click Add.

5 To edit, select the desired watermark from the list, edit, and then click Update.

6 To complete the edit, click $\mathbf{O K}$, and start printing.

To stop printing the watermark, select None in the Message drop-down list.

## To delete a w atermark

1 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.

2 From the Watermark tab, select the watermark for deletion from the Messages drop-down list.

3 Click Delete.

4 Click OK.

## Using Page Overlay

What is an Overlay?


## Creating a New Page Overlay

## 

An overlay is text and/or images stored in the computer HDD as a special file format that can be printed on any document. Overlays are often used to take the place of preprinted forms and letterhead paper. Rather than using preprinted letterhead, you can create an overlay containing the exact same information that is currently on your letterhead. To print a letter with your company's letterhead, you do not need to load preprinted letterhead paper in the printer. You need only tell the printer to print the letterhead overlay on your document.

To use a page overlay, you must create a new page overlay containing your logo or image.

1 Create or open a document containing text or an image for use in page overlay. Position the items exactly as you wish them to appear when printed as an overlay. If needed, save the file for later use.

2 Select Print from the File menu. Then click Properties in the application's Print dialog box to access the printer properties. For details, see page 5.1.

3 Click the Overlays tab, and click Create Overlay.


4 In the Create Overlay dialog box, type a name of up to eight characters in the File name box. Select the destination path if necessary. (The default is C: (FORMOVER).


5 Click OK. You will see the name in the Overlay List box.

6 Click OK or Yes until you complete the creation.
The file is not printed out. Instead it is stored on your computer HDD disk.

Note: The overlay document size must be the same as documents you will print with the overlay.

After an overlay has been created, it is ready to be printed with your document. To print an overlay with a document:

1 Create or open the document to print.

2 To change the print settings from your software application, access the printer properties. See page 5.1 to access the printer properties.

3 Click the Overlays tab, and select the desired overlay from the Overlay List box.

4 If the desired overlay file does not appear in the Overlay List box, click Load Overlay, and select the overlay file.
Look $\mathrm{n} / \square$ Fom0ver $\square$

4] sambung OVVL


If the stored overlay file is from an external source, you can also load the file when you access this Load Overlay window.

To select the file, click OK. The file is now shown in the Overlay List box and is available for printing. Select the overlay from the Overlay List box.


5 If necessary, click Query Page Overlay. When this box is checked, a message box appears each time you submit a document for printing, asking you to print an overlay on your document.

Answering Yes to the message box means that the selected overlay will be printed with your document.
Answering No to the message box cancels overlay printing.
If this box is empty, and an overlay has been selected, the overlay will be automatically printed with your document.

6 Click OK or Yes until the printing starts.
The selected overlay will be downloaded with the print job and printed on the document. You can delete page overlays that are no longer used.

1 In the printer properties dialog box, click the Overlays tab.
2 Select the overlay to delete from the Overlay List box.

## 3 Click Delete Overlay.

4 Click OK to exit the Print dialog box.

## Reprinting the Last Page

The Samsung ML-1200's memory stores the last page of the last job. If you canceled a print job due to a paper jam or other problems and want to know which page was printed last, reprint the last page.

Press Cancel/Reprint in Ready mode to reprint the last page.


Note: To prevent someone from reprinting your document, you can disable the reprinting feature in the printer's properties dialog box. When you turn the feature off in the printer's properties, the Cancel/Reprint button on the control panel does not perform the reprinting operation.

## To disable this feature:

1. From the Start menu, select Settings and then

Printers.
2. Click the right mouse button on the Samsung ML-1200 Series printer icon and select Properties to open the properties window.
3. From the Graphic tab, Select Off from the Reprint drop-down list.
With this option off, you cannot reprint the last page from the control panel.
When you want to reprint the last page on the control panel, you must select On from the list.
4. Click OK.

## Printing in a Network Environment

If you work in a network environment, you can connect the ML-1200 Series printer directly to a selected computer (called the "host computer") on the network. The printer can then be shared by other users on the network through a Windows 9x, Me, NT 4.0, 2000 or XP network printer connection.

Note: You need to install the Samsung M L-1200 Series printer driver on each computer that will send documents to the printer.

## Setting Up the Host Computer



1 Start Windows.

2 From the Start menu, select Control Panel, and double-click on the Network icon.

3 Check the File and Print Sharing box, then click OK. Close the window.

4 Click Start and select Printers from Settings, then double-click your printer name.

5 Select Properties in the Printers menu.

6 Click the Sharing tab, then check the Shared As box. Fill in the Shared Name field, then click OK.

## Setting Up Client PC



1 Right-click Start, and select Explorer.

2 Open the network folder in the left column.

3 Right-click the shared name, and select Capture Printer Port.

4 Select the port, check the Reconnect at log on box, then click OK.

5 From the Start menu, select Settings, then Printers.

6 Double-click your printer icon.

7 From the Printers menu, select Properties.

8 Press the Details tab, select the printer port, then click OK.

## Maintaining Your

 PrinterThis chapter provides suggestions for maintaining the toner cartridge and printer.

Topics included in this chapter are:

- Maintaining the Toner Cartridge
- Cleaning the Printer


## Maintaining the Toner Cartridge

## Toner cartridge storage

To get the maximum results from the toner cartridge, keep the following guidelines in mind.

- Do not remove the toner cartridge from its package until ready for use.
- Do not refill toner cartridges. The printer warranty does not cover damage caused by using a refilled cartridge.
- Store toner cartridges in the same environment as the printer.
- To prevent damage to the toner cartridge, do not expose it to light for more than a few minute.

Toner cartridge life expectancy

The life of the toner cartridge depends on the amount of toner that print jobs require. When printing text at 5\% coverage, a new toner cartridge lasts an average of 2,500 pages. (The original toner cartridge supplied with the printer lasts an average of 1,000 pages.)

Recycling toner After installing a new toner cartridge (see page 2.2), follow the cartridge instructions included in the toner cartridge box to recycle the old cartridge.

Saving toner To save toner, press the Toner Save button on the printer control panel. The button will be lit. You can also enable the Toner Save Mode in the printer properties. Refer to "Using Toner Save Mode" on page 5.6. Selecting this option will extend the life of the toner cartridge and reduce your cost per page, but will reduce print quality.

## Toner Cartridge

## Redistributing Toner

When toner is low, faded or light areas may appear on a printed page. You may be able to temporarily improve print quality by redistributing the toner. The following procedures may allow you to finish the current print job before replacing the toner cartridge.

1 Grasp the front cover at both sides and pull it toward you to open.


2 Remove the toner cartridge from the printer.

## CAUTION:

- Avoid reaching too far into the printer. The fusing area may be hot.
- To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes.


3 Gently shake the toner cartridge from side to side five or six times to redistribute the toner.

Note: If the toner gets on your clothing, wipe it off with a dry cloth and wash clothing in cold water. Hot w ater sets toner into fabric.


4 Reinsert the toner cartridge into the printer. Insure the toner cartridge snaps into place.

5 Firmly close the cover.

## If the print remains light

Remove the old cartridge and install a new toner cartridge. See "Install the
 Toner Cartridge" on page 2.2.

## Cleaning the Printer

To maintain print quality, follow the cleaning procedures below each time the toner cartridge is replaced or if print quality problems occur.

## Notes:

- Do not use ammonia-based cleaners or volatile solvents such as thinner on or around the printer. These can damage the printer.
- While cleaning the inside of the printer, be careful not to touch the transfer roller (located underneath the toner cartridge ). The oil from your fingers can cause print quality problems.


## Cleaning the Outside

Wipe the outside surface of the printer with a soft, clean, lintfree cloth.

## Cleaning the Inside

During the printing process, paper, toner, and dust particles can accumulate inside the printer. This buildup can cause print quality problems such as toner specs or smearing. Cleaning the inside of the printer will eliminate or reduce these problems.

## Cleaning inside the printer

Note: To prevent damage to the toner cartridge, do not expose it to light for more than a few minute. Cover it with a piece of paper, if necessary. Also, do not touch the black transfer roller inside the printer.

1 Turn the printer off and unplug the power cord, then wait for the printer to cool.

2 Open the front cover and remove the toner cartridge.

3 With a dry, lint-free cloth, wipe away any dust and spilled toner from the toner cartridge area and the toner cartridge cavity.


4 Reinsert the toner cartridge and close the cover.


5 Plug in the power cord, and turn the printer on.

Printing a cleaning sheet
If you are experiencing blurred, faded or smeared printouts. Printing a cleaning sheet cleans the drum inside the toner cartridge. This process will produce a page with toner debris, which should be discarded.

1 Insure the printer is turned on and in the ready mode with paper loaded in the automatic input tray.

2 Press and hold down Demo on the control panel for about ten seconds until all control panel lights remain lit, then release.


6

3 Your printer automatically picks up a sheet of paper from the tray and prints out a cleaning sheet with the dust or toner particles on it.

## Problem Solving

This chapter provides helpful information on the following topics:

- Troubleshooting Checklist
- Solving General Printing Problems
- Clearing Paper Jams
- Solving Print Quality Problems
- Troubleshooting Error Messages
- Common Windows Problems


## Troubleshooting Chedklist

If the printer is not working properly, consult the following checklist. If the printer does not pass a step, follow the corresponding troubleshooting suggestions.

| Check | Solution |
| :--- | :--- |
| Insure the Data light on the <br> control panel is on. | - If no lights are on, check the power cord and power <br> switch. Check the power source by plugging into <br> another outlet. |
| - If other lights are on, go to "Troubleshooting Error |  |
| Messages" on page 7.17. |  |$|$

## Solving General Printing Problems

For problems with the operation of your printer, refer to the table for suggested solutions.

| Problem | Possible Cause | Solution |
| :---: | :---: | :---: |
| The printer does not print. | The printer is not receiving power. | If no lights are on, check the power cord connections. Check the power switch and power source. |
|  | The printer is not selected as the default printer. | Select Samsung ML-1200 Series as your default printer. |
|  | Check the printer for the following: | - The printer cover is not closed. <br> - Paper is jammed. <br> - No paper is loaded. <br> - Toner cartridge is not installed. <br> - If printer system error occurs, contact a service representative. |
|  | The printer may be in manual feed mode and out of paper. (The Paper light is on.) | Add paper to the manual input tray and press the Demo button on the printer's control panel to begin printing. |
|  | The connection cable between the computer and the printer is not connected properly. | Disconnect the printer cable and reconnect it. |
|  | The connection cable between the computer and the printer is defective. | If possible, attach the cable to another computer that is working properly and print a job. You can also try using a different printer cable. |
|  | The port setting is incorrect. | Check the Windows printer setting to insure the print job is sent to the correct port (for example, LPT1). If the computer has more than one port, insure the printer is attached to the correct one. |


| Problem | Possible Cause | Solution |
| :--- | :--- | :--- |
| The printer does not <br> print. (continued) | The printer may be <br> configured incorrectly. | Check the printer properties to insure <br> all print settings are correct. |
|  | The printer driver may <br> be incorrectly installed. | Uninstall the printer driver, then <br> reinstall the printer driver. Try printing <br> a demo page. |
|  | The printer is <br> malfunctioning. | Check the lights on the control panel to <br> determine if the printer is indicating a <br> system error. |
| Printer selects media <br> from the wrong <br> paper source. | The paper source <br> selection in the printer <br> properties may be <br> incorrect. | For many software applications, the <br> paper source selection is found under <br> the Paper tab within the printer <br> properties. Select the correct paper <br> source. |
| Paper does not feed <br> into the printer. | Paper has not been <br> loaded correctly. | Remove paper from the input tray and <br> reload. |
|  | There is too much paper <br> in the input tray. | Remove excess paper from the input <br> tray. |
|  | The paper is too thick. | Use only paper that meets the <br> specifications required by the printer. |
| Print job is extremely <br> slow. | The job may be very <br> complex. | Reduce the complexity of the page or <br> try adjusting the print quality settings. |
|  | The maximum print <br> speed of the Samsung <br> ML-1200 Series printer is <br> 12 pages per minute. | If using Windows 95, the <br> Spooling Setting may be <br> set incorrectly. | | From the Start menu, choose Settings |
| :--- |
| and Printers. Right-click the Samsung |
| ML-1200 Series printer icon, choose |
| Properties, click the Details tab, and |
| then choose ete Spool Settings |
| button. Select the desired spool |
| setting. |

## Solving General Printing Problems

| Problem | Possible Cause | Solution |
| :---: | :---: | :---: |
| Half the page is blank. | The page layout is too complex. | Simplify the page layout and remove any unnecessary graphics from the document. |
|  | The page orientation setting may be incorrect. | Change the page orientation in your application. |
|  | The paper size and the paper size settings do not match. | Insure the paper size in the print settings matches the paper in the input tray. |
| The paper keeps jamming. | There is too much paper in the paper tray. | Remove excess paper from the tray. If printing special media, use the manual input tray. |
|  | An incorrect type of paper is being used. | Use only paper that meets the specifications required by the printer. |
|  | An incorrect output method is being used. | Media such as thick paper should not be printed using the face-down output tray. Use the face-up output slot instead. |
|  | There may be debris inside the machine. | Open the front cover and remove the debris. |
| The printer prints, but the text is wrong, garbled, or incomplete. | The printer cable is loose or defective. | Disconnect the printer cable and reconnect. Try a print job that you have already printed successfully. If possible, attach the cable and printer to another computer and try a print job that you know works. Finally, try a new printer cable. |
|  | The wrong printer driver was selected. | Check the application's printer selection menu to insure your printer is selected. |


| Problem | Possible Cause | Solution |
| :--- | :--- | :--- |
| The printer prints, but <br> the text is wrong, <br> garbled, or incomplete. <br> (continued) | The software application <br> is malfunctioning. | Try printing a job from another <br> application. |
| Pages print, but are <br> blank. | The toner cartridge is <br> defective or out of toner. | Replace the toner cartridge. <br> The file may have blank <br> pages. |
|  |  |  |
|  | Contact a service representative. |  |
| The illustrations print <br> incorrectly in Adobe <br> Illustrator. | The setting in the <br> software application is <br> wrong. | Print the document with the Bitmap <br> Printing checkbox in the Print dialog <br> box. |

ATTENTION: The lifetime of the transfer roller
If you have any printing problem after your printer prints about 50,000 pages, you must contact the customer service to replace the transfer roller.

## Clearing Paper Jams

Occasionally, paper can become jammed during a print job. Some of the causes include:

- The paper tray is loaded improperly or overfilled.
- The paper tray has been pulled out during a print job.
- The top cover has been opened during a print job.
- Paper that does not meet paper specifications has been used. See "Paper Specifications" on page A. 2.
- Paper that is outside of the supported size range has been used. See "Paper Specifications".

If a paper jam occurs, the Paper and the Error lights remain lit on the control panel. Find and remove the jammed paper. If the location of the paper jam is not obvious, look inside the printer.

## Output Area

Note: Paper jams in this area may result in loose toner on the page. If you get any toner on your clothes, wash them in cold water as hot water will set the toner into the fabric.

1 Pull the jammed paper carefully from the output stacker.


If paper is jammed in the face-up output slot, carefully remove the paper as shown.


2 Open and close the front cover. Printing can be resumed.


## Input Area

Note: If paper has entered the toner cartridge area, follow the instructions on page 7.8.

1 Carefully pull the jammed paper out of the input tray.


2 Open and close the front cover to resume printing.

Note: If the Paper and the Error lights do not turn off, there is still jammed paper inside the printer. Check the inside of the printer.


## Inside the Printer

Note: Paper jams in this area may result in loose toner on the page. If you get any toner on your clothes, wash them in cold water as hot water w ill set the toner into the fabric.

1 Grasp the front cover by both sides of the cover and pull it toward you to open.


2 Remove the toner cartridge.

CAUTION: To prevent damage to the toner cartridge, do not expose it to light for more than a few minutes. Place a piece of paper over the top of the toner cartridge to shield it while it is out of the printer.

3 Gently pull the paper toward you to remove it from the printer.

Make sure that no paper remains inside the printer.

4 Reinsert the toner cartridge and close the front cover. Printing can be resumed.


## Tips for Avoiding Paper Jams

By selecting the correct paper types, most paper jams can be avoided. If a paper jam occurs, follow the steps outlined in "Clearing Paper Jams" on page 7.6.

- Follow the procedures in "Load Paper" on page 2.4. Insure that the adjustable guides are positioned correctly.
- Do not overload the automatic input tray. Insure the paper is below the paper capacity mark on the inside of the tray.
- Do not remove the paper from the input tray while printing.
- Flex, fan and straighten the paper before loading.
- Do not use creased, damp or highly curled paper.
- Do not mix paper types in the input tray.
- Use only recommended print media. See "Paper Specifications" on page A. 2 .
- Insure that the recommended print side is facing up when loading paper into both input trays.
- Keep print media stored in an acceptable environment. See "Printer and Paper Storage Environment" on page A.6.


## Solving Print Quality Problems

## Print Quality Checklist

Print quality problems can be resolved by following the checklist below.

- Redistribute the toner in the toner cartridge (see page 6.2).
- Clean the inside of the printer (see page 6.4).
- Adjust the print resolution from the printer properties (see page 5.11).
- Insure Toner Save Mode is off (see page 5.6).
- Troubleshoot general printing problems (see page 7.2).
- Install a new toner cartridge, and check print quality (see page 2.2).


## Solving Print Quality Problems

| Problem | Solution |
| :---: | :---: |
| Light or faded print | If a vertical white streak or faded area appears on the page: <br> - The toner supply is low. You may be able to temporarily extend the toner cartridge life. See "Redistributing the Toner" on page 6.2. If this does not improve the print quality, install a new toner cartridge. <br> - The paper may not meet paper specifications (for example, the paper is too moist or too rough). See "Paper Specifications" on page A. 2 . <br> - If the entire page is light, the print resolution setting is too light or Toner Save Mode is on. Adjust the print resolution and Toner Save Mode in the printer properties. See page 5.6 and 5.11 respectively. <br> - A combination of faded or smeared defects may indicate that the toner cartridge needs cleaning. See "Cleaning the Printer" on page 6.4. <br> - The surface of LSU may be dirty. Clean the LSU. See "Cleaning the Printer". |

Problem

## Solution

- The paper may not meet specifications (for example, the paper is too moist or too rough). See "Paper Specifications" on page A. 2 .
- The transfer roller may be dirty. See "Cleaning the Inside" on page 6.4.
- The paper path may need cleaning. See "Cleaning the Inside".

If faded areas, generally rounded, occur randomly on the page:

- A single sheet of paper may be defective. Try reprinting the job.
- The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. See "Paper Specifications" on page A.2.
- The paper lot is bad. The manufacturing processes can cause some areas to reject toner. Try a different kind or brand of paper.
- The toner cartridge may be defective. See "Vertical repetitive defects" on the next page.
- If these steps do not correct the problems, contact a service representative.


## Vertical lines



If black vertical streaks appear on the page:

- The drum inside the toner cartridge has probably been scratched. Install a new toner cartridge.

| Problem | Solution |
| :---: | :---: |
| Gray background <br> AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc | If the amount of background shading becomes unacceptable, the procedures below may fix the problem. <br> - Change to a lighter weight pages. See "Paper Specifications" on page A.2. <br> - Check the printer's environment; very dry (low humidity) or high humidity (higher than $80 \% \mathrm{RH}$ ) conditions can increase the amount of background shading. <br> - Install a new toner cartridge. |
| Toner smear <br> AaBbCc AaBbCc AaBbCc AaBbCc AaBbCc | - Clean the inside of the printer. See "Cleaning the Inside" on page 6.4. <br> - Check the paper type and quality. See "Paper Specifications" on page A.2. <br> - Install a new toner cartridge. |
| Vertical repetitive defects <br> AaBbCc <br> AaBbCc <br> AaBbCc <br> AaBbCc <br> AaBbCc | If marks repeatedly appear on the printed side of the page at even intervals: <br> - The toner cartridge may be damaged. If a repetitive mark occurs on the page, print a cleaning sheet several times to clean the cartridge (see page 6.5). After the printout, if you still have the same problems, install a new toner cartridge. <br> - Parts of the printer may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. <br> - The fusing assembly may be damaged. Contact a service representative. |

## Problem

## Background scatter



## Solution

Background scatter results from bits of toner distributed on the printed page.

- The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture.
- If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems.
- If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or the printer properties.


## Misformed characters

## AaBbcc AaBbCc AaBbCc AaBbcc AaBbcc AaBbcc

- If characters are improperly formed and producing hollow images, the paper stock may be too slick. Try a different paper. See "Paper Specifications" on page A.2.
- If characters are improperly formed and producing a wavy effect, the scanner unit may need service. Verify that it also occurs on a demo page by pressing the Demo button on the control panel when the printer is ready. For service, contact a service representative.

Page skew


- Check the paper type and quality. See "Paper Specifications" on page A. 2 .
- Insure the paper or other media is loaded correctly and the guides are not too tight or too loose against the paper stack.


## Problem

| Curl or wave |
| :---: |
| AaBbCC <br> АавbCC <br> $A$ ABbCC <br> $A$ ABbCC <br> AaBbCC |

## Solution

Check the paper type and quality. Both high temperature and humidity can cause paper curl. See "Paper Specifications" on page A.2.

- Turn over the stack of paper in the input tray. Also try rotating the paper $180^{\circ}$ in the input tray.
- Push the output lever and try printing to the face up output slot.
- Insure that the paper is loaded properly.
- Check the paper type and quality. See "Paper Specifications" on page A. 2 .
- Push the output lever and try printing to the face up output slot.
- Turn over the stack of paper in the input tray. Also try rotating the paper $180^{\circ}$ in the feeder.


AaBbCc AaBbCc AaBbCc AaBbCc 1 BbCc

- The transfer roller may be dirty. See "Cleaning the Inside" on page 6.4.
- Check for leaking toner. Clean the inside of the printer.

Black pages


- The toner cartridge may not be installed properly. Remove the cartridge and reinsert.
- The toner cartridge may be defective and need replacing. Install a new toner cartridge.
- The printer may require repair. Contact a service representative.

| Problem | Solution |
| :---: | :---: |
| Loose toner <br> AaBbCc AaBbCc $\mathrm{Aa} \mathrm{ab}^{2} \mathrm{Cc}$ $A \therefore \circ C c$ A | - Clean the inside of the printer. <br> - Check the paper type and quality. See "Paper Specifications" on page A. 2. <br> - Install a new toner cartridge. <br> - If the problem persists, the printer may require repair. Contact a service representative. |
| Character Voids | Character voids are white areas within the parts of characters that should be solid black: <br> - If you are using transparencies, try another type of transparency. (Because of the composition of transparency media, some character voids are normal.) <br> - You may be printing on the wrong surface on the paper. Remove the paper and turn it around. <br> - The paper may not meet paper specifications. See "Paper Specifications" on page A. 2 . |
| Horizontal stripes | If horizontally aligned black streaks or smears appear: <br> - The toner cartridge may be installed improperly. Remove the cartridge and reinsert. <br> - The toner cartridge may be defective. Install a new toner cartridge. <br> - If the problem persists, the printer may require repair. Contact a service representative. |

## Troubleshooting Error Messages

When the printer experiences an error, the control panel will indicate an error message with the indicator lights. Find the light pattern below that matches the printer light pattern and follow the solutions to clear the error.

## Printer Light Patterns

## Light status legend

symbol for "light off"
symbol for "light on"


| Error | Paper | Data | Power off |
| :---: | :---: | :---: | :---: |
| 0 | 0 | 0 |  |

- Check the power cord and the power switch if your printer does not power up.



## Paper jam, or no toner cartridge

Paper is jammed inside the printer or the toner cartridge is not installed.

- Clear the paper jam. See "Clearing Paper Jams" on page 7.6.
- Insure that the toner cartridge is correctly installed in the printer.



## Paper out

The printer is out of paper in the input tray.

- Load paper into the tray. For the automatic input tray, loading paper will cancel this message and allow you to continue with the print job. For the manual input tray, press the Demo button after loading paper.


## Troubleshooting Error Messages

## Error Paper Data <br> $0 \rightarrow 0$

## Waiting for the Demo button to be pressed

While printing in the manual feed mode, the printer is waiting for the Demo button to be pressed.

- Press the Demo button on the control panel to start printing. You must press the button to print each page after loading paper into the manual input tray.


The printer front cover may be open.

- Check that the printer front cover door is closed properly.



## Canceling a job or memory out

If your printer is canceling a job (see page 5.5), the Error light blinks. When cancellation is complete, the message will automatically clear. The printer memory may not be sufficient for the print job. The page being printed may have been too complex for the memory capacity of the printer. Press the Cancel/Reprint button to cancel the current job.

- Try to free up memory by removing any unnecessary fonts, macros, or any data currently in printer memory.
- Simplify the image or print at a lower resolution.

- Reset the printer by briefly turning the printer off and back on again.
- If the error persists, contact a service representative.

- Reset the printer by briefly turning the printer off and back on again.
- If the error persists, contact a service representative.

| Error | Paper | Data | Toner Save |  |
| :---: | :---: | :---: | :---: | :---: |
| 0 | Prror | Paper | Data | Toner Save |

- Reset the printer by briefly turning the printer off and back on again.
- If the error persists, contact a service representative.

- Reset the printer by briefly turning the printer off and back on again.
- If the error persists, contact a service representative.


## Common Windows Problems

| Problem | Possible Cause and Solution |
| :--- | :--- |
| $\begin{array}{l}\text { "File in Use" message } \\ \text { appears during installation. }\end{array}$ | $\begin{array}{l}\text { Exit all software applications. Remove all software from the } \\ \text { StartUp Group, then restart Windows. Reinstall the printer } \\ \text { driver. }\end{array}$ |
| $\begin{array}{l}\text { "Error Writing to LPTx" } \\ \text { message appears. }\end{array}$ | $\begin{array}{l}\text { - Insure the cables are connected correctly, the printer is } \\ \text { on, and the Data light on the control panel is on. }\end{array}$ |
| - If bi-directional communication is not turned on in the |  |
| driver, it will also cause this message. |  |$\}$| - From the Start menu, select Settings, then Printers. |
| :--- |
| Right-click on the Samsung ML-1200 Series printer icon |
| and select Properties. From the Details tab, click on |
| Port Settings. Uncheck the Check Port State before |
| Printing box and click OK. From Spool Settings, select |
| Print Directly to Printer and click OK. Try printing |
| again. |

Note: Refer to M icrosoft Windows 9x, Me, NT 4.0, 2000 or XP documentation that came with your PC for further information on W indows error messages.

## Appendix

This appendix provides information on the following topics:

- Printer Specifications
- Paper Specifications
- Installing USB driver in Windows
- Using Your Printer with Macintosh
- Linux Driver Installation


## Printer Specifications

| Item | Specifications and Description |
| :---: | :---: |
| Print Speed | 12 PPM |
| Resolution | 600 dpi |
| First Printing Time | Less than 12.5 seconds |
| WarmUp Time | 30 seconds |
| Power Rating | AC $100 \sim 127$ V (USA, Canada) / 220 ~ 240 V (Others), $50 / 60 \mathrm{~Hz}$ |
| Power Consumption | 250 W average during operation / Less than 10 W in sleep mode |
| Acoustic Noise | Stand by: Less than 35 dB ; Operating: Less than 47 dB |
| Toner Supply | Single cartridge |
| Toner Cartridge Life | 2,500 pages (for starter, 1,000 pages), 5\% area coverage |
| Duty Cycle | Monthly: 12,000 pages maximum |
| Weight | $6.5 \mathrm{Kg} / 13.4 \mathrm{lb}$. |
| Package Weight | Paper: 1.83 Kg Plastic: 0.33 Kg |
| External Dimensions $(W \times D \times H)$ | $329 \times 355 \times 231 \mathrm{~mm} / 12.95 \times 13.98 \times 9.09 \mathrm{in}$. |
| Operating Environment | Temperature:10 ~ $32{ }^{\circ} \mathrm{C} / 50 \sim 90{ }^{\circ} \mathrm{F}$; Humidity: $20 \sim 80 \%$ RH |
| Emulation | PrinThru |
| Random Access Memory (RAM) | 8 MB (nonexpandable) |
| Interface | - IEEE 1284 Bidirectional Parallel <br> - Modes supported: Compatible, Nibble, Byte, ECP <br> - USB Interface Standard <br> - USB 1.0 compliant <br> - 12 Mbps 1 port |

## Paper Specifications

## Overview

This printer accepts a variety of media, such as cut-sheet paper (including up to $100 \%$ recycled fiber content paper), envelopes, labels, transparencies and custom-size paper.
Properties such as weight, composition, grain and moisture content are important factors affecting printer performance and output quality. Paper that does not meet the guidelines outlined in this manual can cause the following problems:

- Poor print quality
- Increased paper jams
- Premature wear on the printer.


## Notes:

- Some paper may meet all of the guidelines in this manual and still not produce satisfactory results. This may be the result of improper handling, unacceptable temperature and humidity levels, or other variables over which Samsung has no control.
- Before purchasing large quantities of paper, insure the paper meets the requirements specified in this user guide.

CAution: Using paper that does not meet these specifications may cause problems, requiring repairs. These repairs are not covered by the Samsung warranty or service agreements.

## Supported Sizes of Paper

| Paper | Dimensions |  | Weight | Capacity ${ }^{\text {a }}$ |
| :---: | :---: | :---: | :---: | :---: |
| Letter | $8.5 \times 11 \mathrm{in} .(216 \times 279 \mathrm{~mm})$ |  | 16 to 24 lb Bond <br> ( 60 to $90 \mathrm{~g} / \mathrm{m}^{2}$ ) | - 150 sheets of 20 lb Bond ( $75 \mathrm{~g} / \mathrm{m}^{2}$ ) paper for the automatic input tray <br> - 1 sheet paper for the manual input tray |
| A4 | $210 \times 297 \mathrm{~mm}$ ( $8.3 \times 11.7 \mathrm{in}$.) |  |  |  |
| Executive | $7.3 \times 10.5 \mathrm{in} .(191 \times 267 \mathrm{~mm})$ |  |  |  |
| Legal | $8.5 \times 14 \mathrm{in} .(216 \times 356 \mathrm{~mm})$ |  |  |  |
| B5 (JIS) | $182 \times 257 \mathrm{~mm}$ ( $7.2 \times 10 \mathrm{in}$.) |  |  |  |
| Folio | $216 \times 330 \mathrm{~mm}$ ( $8.5 \times 13 \mathrm{in}$.) |  |  |  |
| Minimum Size (custom) | Automatic Input Tray | $\begin{aligned} & 95 \times 127 \mathrm{~mm} \\ & (3.8 \times 5 \mathrm{in} .) \end{aligned}$ | 60 to $163 \mathrm{~g} / \mathrm{m}^{2}$ <br> Bond <br> (16 to 43 lb ) | - 5 sheets of 20 lb Bond ( $75 \mathrm{~g} / \mathrm{m}^{2}$ ) paper for the automatic input tray <br> - 1 sheet paper for the manual input tray |
|  | Manual Input Tray | $\begin{aligned} & 76 \times 127 \mathrm{~mm} \\ & (3 \times 5 \mathrm{in} .) \end{aligned}$ |  |  |
| Maximum Size (custom) | $216 \times 356 \mathrm{~mm}$ ( $8.5 \times 14 \mathrm{in}$. |  |  |  |
| Transparency | Same minimum and maximum paper sizes as listed above. |  | Thickness:$\begin{aligned} & .10 \times .14 \mathrm{~mm} \\ & (0.0039 \mathrm{X} \\ & 0.0055 \mathrm{in} .) \end{aligned}$ |  |
| Labels ${ }^{\text {b }}$ |  |  |  |  |
| Envelopes |  |  | $\text { up to } 90 \mathrm{~g} / \mathrm{m}^{2}$ $(16-24 \mathrm{lb})$ |  |

a. Capacity may vary depending on media weight, thickness and environmental conditions.
b. Smoothness - 100 to 250 (Sheffield)

Note: You may experience paper jams when using media with a length of less than 127 mm (5 in.). For optimum performance, insure you are storing and handling the paper correctly. Please refer to "Printer and Paper Storage Environment" on page A.6.

## Guidelines for Using Paper

For best results, use conventional $75 \mathrm{~g} / \mathrm{m}^{2}(20 \mathrm{lb})$ paper. Insure the paper is of good quality, and free of cuts, nicks, tears, spots, loose particles, dust, wrinkles, voids, and curled or bent edges.

If you are unsure of what type of paper you are loading (such as bond or recycled), check the label on the package.

The following problems may cause print quality deviations, jamming, or even damage to the printer.

| Symptom | Problem with Paper | Solution |
| :--- | :--- | :--- |
| Poor print quality or <br> toner adhesion, <br> problems with feeding | Too moist, too rough, too <br> smooth, or embossed; <br> faulty paper lot | Try another kind of paper, <br> between $100 \sim 250$ Sheffield, <br> $4 \sim 5 \%$ moisture content. |
| Dropout, jamming, <br> curl | Stored improperly | Store paper flat in its moisture- <br> proof wrapping. |
| Increased gray <br> background shading <br> /printer wear | Too heavy | Use lighter paper, open the rear <br> output tray. |
| Excessive curl <br> problems with feeding | Too moist, wrong grain <br> direction or short-grain <br> construction | - Open the rear output tray. <br> - Use long-grain paper. |
| Jamming, damage to | Cutouts or perforations | Do not use paper with cutouts or <br> perforations. |
| printer |  |  |

Notes:

- Do not use letterhead paper printed with low-temperature inks, such as those used in some types of thermography.
- Do not use raised or embossed letterhead.
-The printer uses heat and pressure to fuse toner to the paper. Insure that any colored paper or preprinted forms use inks that are compatible with this fusing temperature ( $200{ }^{\circ} \mathrm{C}$ or 392 ${ }^{\circ} \mathrm{F}$ for 0.1 second).


## Paper Specifications

| Category | Specifications |
| :--- | :--- |
| Acid Content | $5.5 \sim 8.0 \mathrm{pH}$ |
| Caliper | $.094 \sim .18 \mathrm{~mm}(3.0 \sim 7.0$ mils $)$ |
| Curl in Ream | Flat within $5 \mathrm{~mm}(.02 \mathrm{in})$. |
| Cut Edge Conditions | Cut with sharp blades with no visible fray. |
| Fusing Compatibility | Must not scorch, melt, offset, or release hazardous <br> emissions when heated to $200^{\circ} \mathrm{C}\left(392^{\circ} \mathrm{F}\right)$ for .1 <br> second. |
| Grain | Long Grain |
| Moisture Content | $4 \% \sim 6 \%$ by weight |
| Smoothness | $100 \sim 250$ Sheffield |

## Paper Output Capacity

| Output Tray | Capacity |
| :--- | :---: |
| Face-down output tray | 100 sheets of 20 lb bond $\left(75 \mathrm{~g} / \mathrm{m}^{2}\right)$ paper |
| Face-up output slot | 1 sheet of 20 lb bond $\left(75 \mathrm{~g} / \mathrm{m}^{2}\right)$ paper |

## Printer and Paper Storage Environment

Paper storage environmental conditions directly affect the feed operation.

Ideally, the printer and paper storage environment should be at or near room temperature, and not too dry or humid. Remember that paper is hygroscopic; it absorbs and loses moisture rapidly.

Heat works with humidity to damage paper. Heat causes the moisture in paper to evaporate, while cold causes it to condense on the sheets. Heating systems and air conditioners remove most of the humidity from a room. As paper is opened and used, it loses moisture, causing streaks and smudging. Humid weather or water coolers can cause the humidity to increase in a room. As paper is opened and used it absorbs any excess moisture, causing light print and dropouts. Also, as paper loses and gains moisture it can become distorted. This can cause paper jams.

Care should be taken not to purchase more paper than can be used in a short time (about 3 months). Paper stored for long periods may experience heat and moisture extremes, which can cause damage. Planning is important to prevent damage to large supplies of paper.

Unopened paper in sealed reams can remain stable for several months before use. Opened packages of paper have more potential for environment damage, especially if they are not wrapped with a moisture-proof barrier.

The paper storage environment should be properly maintained to ensure optimum printer performance. The required condition is $20^{\circ}$ to $24^{\circ} \mathrm{C}\left(68^{\circ}\right.$ to $\left.75^{\circ} \mathrm{F}\right)$, with a relative humidity of $45 \%$ to $55 \%$. The following guidelines should be considered when evaluating the paper's storage environment:

- Paper should be stored at or near room temperature.
- The air should not be too dry or too humid.
- The best way to store an opened ream of paper is to rewrap it tightly in its moisture-proof wrapping. If the printer environment is subject to extremes, unwrap only the amount of paper to be used during the day's operation to prevent unwanted moisture changes.

Envelope construction is critical. Envelope fold lines can vary considerably, not only between manufacturers, but also within a box from the same manufacturer. Successful printing on envelopes depends upon the quality of the envelopes. When selecting envelopes, consider the following components:

- Weight: The weight of the envelope paper should not exceed $90 \mathrm{~g} / \mathrm{m}^{2}$ (24 lbs), otherwise, jamming may occur.
- Construction: Prior to printing, envelopes should lie flat with less than 6 mm ( 0.25 in .) curl.
- Condition: Envelopes should not be wrinkled, nicked, or otherwise damaged.
- Temperature: Use envelopes that are compatible with the heat and pressure of the printer.
- Size: Use only envelopes within the following size ranges.

|  | Minimum | Maximum |
| :--- | :--- | :---: |
| Automatic input <br> tray | $95 \times 127 \mathrm{~mm}$ <br> $(3.8 \times 5 \mathrm{in})$. | $216 \times 356 \mathrm{~mm}$ <br> $(8.5 \times 14 \mathrm{in})$. |
| Manual input tray | $76 \times 127 \mathrm{~mm}$ <br> $(3 \times 5 \mathrm{in})$. |  |

Note: You may experience some paper jams when using any media with a length of less than 127 mm ( 5 in .). This may be caused by paper that has been affected by environmental conditions. For optimum performance, insure you are storing and handling the paper correctly. Please refer to "Printer and Paper Storage Environment" on page A.6.

Envelopes with Double Side Seams

Double side-seam construction has vertical seams at both ends of the envelope rather than diagonal seams. This style may be more likely to wrinkle. Insure the seam extends all the way to the corner of the envelope as illustrated below.


Envelopes with Adhesive Strips or Flaps

Envelopes with a peel-off adhesive strip or with more than one flap that folds over must use adhesive compatible with the heat and pressure in the printer. The extra flaps and strips may cause wrinkling, creasing, or even jams and may even damage the fuser.

The following gives typical address margins for a commercial \#10 or DL envelope.

| Type of Address | Minimum | Maximum |
| :--- | :--- | :---: |
| Return address | $15 \mathrm{~mm}(0.6 \mathrm{in})$. | $15 \mathrm{~mm}(0.6 \mathrm{in})$. |
| Delivery address | $51 \mathrm{~mm}(2 \mathrm{in})$. | $89 \mathrm{~mm}(3.5 \mathrm{in})$. |

Notes:

- For best print quality, position margins no closer than 15 mm ( 0.6 in .) from the edges of the envelope.
- Avoid printing over the area where the envelope's seams meet.

Envelope Storage Proper storage of envelopes helps contribute to print quality. Envelopes should be stored flat. If air is trapped in an envelope, creating an air bubble, then the envelope may wrinkle during printing. See "Printing on Envelopes" on page 4.7.

## CAUTIONS:

- To avoid damaging the printer, use only labels recommended for laser printers.
- To prevent jams, always use the face-up output slot.
- Never print on the same sheet of labels more than once or print on a partial sheet of labels.

When selecting labels, consider the quality of each component:

- Adhesive: The adhesive material should be stable at $200^{\circ} \mathrm{C}\left(392^{\circ} \mathrm{F}\right)$, the printer's fusing temperature.
- Arrangement: Only use labels with no exposed backing between them. Labels can peel off sheets with spaces between the labels, causing jams.
- Curl: Prior to printing, labels must lie flat with no more than 13 mm (. 5 in .) of curl in any direction.
- Condition: Do not use labels with wrinkles, bubbles, or other indications of separation.

See "Printing on Labels" on page 4.10.

## Transparencies

Transparencies used in the printer must be able to withstand $200^{\circ} \mathrm{C}\left(392{ }^{\circ} \mathrm{F}\right)$, the printer's fusing temperature.

CAUTION: To avoid damaging the printer, use only transparencies recommended for use in laser printers.

See "Printing on Transparencies" on page 4.11.

## Installing USB driver in Windows



If you have a USB (Universal Serial Bus) port enabled on your computer, and if your computer is running Windows 98/Me/2000/XP, you can connect your printer to the USB chain of devices.

Note: Connecting the printer to the USB port of the computer requires a certified USB cable. You will need to buy the USB 1.0 or 1.1 compliant cable.


## Installing USB driver in Windows 98/Me

## 1. Install PCL driver



Note: All applications must be closed on your PC before beginning installation.

Place the CD-ROM in the CD-ROM drive. Installation will start automatically.


Follow the instructions on the screen to complete the installation.

For more details, see page 2.8.
2. Connect printer with USB cable

1 Make sure that both the printer and computer are turned 0 N .
2 Plug one end of the USB cable into the USB port on the printer.


3 Plug the other end into the USB port on the computer.
3. Install USB driver

1 The Add New Hardware Wizard dialog box appears. Click Next.


2 Check Search for the best driver for your device and click Next.

3 Check CD-ROM drive and click Browse, then choose D: \USB (where $D$ is the drive letter for the CD-ROM drive).


4 Clidk Next. The USB driver will be installed.


5 Follow the instructions on the screen to complete the installation.

## 4. Set your PC printer port

From the Start menu, select Settings, then select Printers.


2 Select the Samsung ML-1200 Series printer icon in the Printers folder.

3 Select Properties from the File menu.

4 Click the Details tab. Select SSUSB: (ML-1210) in the Print to the following port box. Click 0 K . The setup is now complete.


## Installing USB driver in Windows 2000/XP

## 1. Connecting USB

## 2. Installing USB driver

Note: All applications must be closed on your PC before beginning installation.


Connect your printer with the USB cable.
For the information on connecting the cable, see page A.11.

The New Hardware Found dialog box appears. Click Cancel, and insert the supplied CD-ROM into your CDROM drive.


Follow the instructions on the screen to complete the installation. For more details, see page 2.8 .

Note: - If you want to use your printer with the pararell cable, remove the USB cable and connect the pararell cable. Then reinstall the printer driver.

- If your printer doesn't work properly, reinstall the printer driver.


## Frequently Asked Questions About USB

## What is USB?



Universal Serial Bus (USB) makes it easy to connect devices to your computer without having to open the PC. USB uses a standard port and plug combination for connecting devices like printers, modems, scanners, and digital cameras. It also offers the benefit of being able to add, remove, and move devices.

Because USB is a relatively new technology, we recommended using a parallel printing connection. However, USB is an option to customers who want to print from Windows 98 across the USB cable. If your computer's USB port is enabled and properly setup, you can connect your printer via a USB cable.

## How can I determine if my computer's USB port is enabled?

A
1 In Windows 98, select Start $\rightarrow$ Settings $\rightarrow$ Control Panel.
2 Double-click the System icon.
3 Click the Device Manager tab.
4 Click the plus (+) icon before the Universal Serial Bus Controller item.

If you see a USB host controller and a USB root hub listed, then the USB is properly enabled. If you have multiple hubs on the USB chain, try connecting your printer to a different hub or to another USB device. Also, insure the cable connections are firm. (USB hubs are hardware devices into which you can plug multiple USB cables.)

If you do not see these devices listed, refer to your computer's documentation or contact the manufacturer for more information on enabling and setting up the USB. Remember, you can also use a parallel cable to connect your printer's parallel port to your computer. (If you decide to switch to a parallel cable connection, you may need to remove and reinstall the printer software. )

# Can other users on my USB chain print to my ML-1200 Series printer on the USB chain? 

Yes. Windows 98 allows you to "share" your printer using software settings on your computer. After others on the USB chain have installed the printer software for your specific printer, they can print to your shared printer.

## After I install my printer, why isn't my ML-1200 Series printer assigned to an LPT printer port in the Print dialog box of my software application?

USB uses a different naming convention for USB devices. After the printer has been installed, you see SSUSB:(your printer name) instead of LPT.

## How can I increase printing speed and quality?

4
When operated on a USB chain, your printer may print slower if other USB devices are being used while you're printing. For optimal print performance, avoid using other devices in the USB chain while printing.

## Using Your Printer with Macintosh

Your printer supports Macintosh system with a built-in USB interface. When you print a file from Macintosh, you can use the PrinThru driver to support your printer's major printing features.

## System Requirements

To use your ML-1200 Series printer and its software with a Macintosh, your system should have:

## Macintosh Hardware Requirement:

- One of the following Macintosh models:
-Power Macintosh series (with external network connection)
-Power Macintosh G3, G4
-iMac series
-PowerBook series
-iBook series
- USB interface


## Macintosh System Requirement:

System 8.0 or later

## Installing Softw are for Macintosh

Connecting to Macintosh

You can connect the printer to your Macintosh using the USB interface.

1 Turn off the printer and computer.

2 Hold the USB cable so the icon faces up and connect it to your printer's USB connector.


3 Connect the other end of the cable to an available USB port on your Macintosh computer. If you have any connection problems, please refer to your computer documentation.

Note: If you are using a USB hub, connect the printer's cable to the first tier of the hub or the printer may malfunction. If the printer doesn't work with the hub, connect it directly to the USB port.

## Installing Softw are 1 Turn on your computer and printer.

2 Insert the CD-ROM which came with your printer into the CD-ROM drive.

3 Double-click the Samsung ML-1200 Series on your Macintosh desktop.

4 Select the correct language, then click Continue.

## 5 Click Install.

6 After installation is complete, click Quit.

## Choosing PrinThru 1 From the Apple menu, select Chooser. Driver

## 2 From the left pane of the Chooser window, click SAMSUNG

 PrinThru. The Samsung printer name will appear in the right pane of the Chooser window.3 Click the Samsung PrinThru driver and close the Chooser window.

4 The message box indicates that you have changed your current printer. Click OK.

5 The Samsung PrinThru printer icon is created as a desktop printer.

## Printing from a M acintosh

When you print with a Macintosh, you need to check the printer software setting in each application you use. Follow these steps to print from a Macintosh:

1 Open a Macintosh application and select a file you want to print.

2 Open the File menu, and click Page Setup (Document Setup in some applications). You see the Page Setup dialog box.

3 Choose your paper size, orientation, paper type and other options and click OK.


Choose Watermark to add a watermark to each page in your document to emphasize its purpose or indicate how it should be handled. For details on the watermark option, see page 5.13 .


4 Open the File menu and click Print. You will see the main printer settings dialog box.

5 Choose the number of copies and indicate which pages you want to print. For advanced printing features, select the desired option. For details, see page A. 22 .


Select the desired option for advanced printing features.

SAMSUNG PrinTleru Printer

## General

 Darkness/Quality Layout Calor Backgruend Printing Paper fource Microsof Ward6 Click Print when you are finished checking your settings.

## Advanced Printing

The Page Setup dialog box contains five categories of page setup properties. Listed below is the name of each property.
-Darkness/Quality
-Layout
-Color
-Background Printing
-Paper Source
Figures below display each property in the Page Setup dialog box.

## Darkness/ Quality



## Layout




## Background Printing



## Paper Source



## Linux Driver Installation

This Linux Configuration file is designed for the PrinThru compatible Samsung ML-1200 Series printer supports Linux Red Hat 6.0 or higher, Mandrake, SuSE and etc. For detailed installion method for non-Red Hat Linux, please refer to readme.txt file in Linux directory of driver CD.

## Linux Driver Configuration

- Configuration Setup File
a. /cdrom/linux/redhat/install.sh
b. /cdrom/linux/redhat/ssprt.db
c. /cdrom/linux/readme.txt
- Ghostscript Package file
a. /cdrom/linux/gs5.10/gs510.rpm
b. /cdrom/linux/gs5.10/COPYING
c. /cdrom/linux/gs5.50/gs550.rpm
d. /cdrom/linux/gs5.50/COPYING


## Installation

To install the driver, open the $x$ terminal screen and take the following steps:

## 1. Mount the CD-ROM

 drive.Note: To mount the CD-ROM drive, you must be a super user or must be authorized to mount the CD-ROM by the super user. If you fail to mount the CD-ROM drive, ask the system administrator.

To mount the CD-ROM drive:
1 Insert the Samsung ML-1200 Series CD-ROM into the CD-ROM drive.

2 Mount the CD-ROM drive under a directory like /mnt in order to access the files on the CD-ROM:
>mount -t iso9660 /dev/cdrom /mnt/cdrom

## Linux Driver Installation

## 2. Install the Ghostscript.

Note: Ghostscript may already be installed in your Linux machine. To support Samsung printer PrinThru, you must update the ghostscript. If you are not sure whether the ghostscript is already installed in your machine, use the command: >rpm -q ghostscript (You can see the version of the ghostscript currently installed in your machine by this command.)

To update the ghostscript:
1 Change to the ghostscript directory by typing: >cd/mnt/cdrom/linux/gs5.XX (where/mnt/cdrom is the CD-ROM directory you have mounted at step 1 and $\mathbf{X X}$ is the version of the ghostscript to be installed, 10 or 50.)

2 Delete the ghostscript currently installed in your machine by typing in:
/mnt/cdrom/linux/gs5.XX>rpm -e --nodeps ghostscript

3 Install the ghostscript which is supplied in the Samsung ML-1200 Series CD-ROM by typing in:
/mnt/cdrom/linux/gs5.XX/rpm -ivh --nodeps gs5xx.rpm

4 When \# appears in the screen and the installation is completed, the ghostscript is successfully updated. To make sure, type in:
/mnt/cdrom/linux/gs5.XX/rpm -q ghostscript
If 'ghostscript-5.XX-xx' message appears, the installation is successfully completed.
3. Install setup script. For details on installing the setup script, refer to the /cdrom/linux/readme.txt file.

Add the driver to the printer list by typing in:
/cdrom/linux/redhat>install.sh (or)
/cdrom/linux/redhat>./install.sh (if the path of the current working directly is not determined.)

## 4. Set up the printer filter. To set up:

1 Run printtool at $x$ terminal.
2 To add the printer driver, click the Add button.
3 In the Add a Printer Entry window, decide the printer type you will use. Select Local Printer if you have a PCconnected printer.

4 Click the OK button.
5 If the Info button appears, ignore it, then click the OK button.

6 The Edit xxxx Entry window opens (where xxxx is the printer type you have selected at step 3).

If you are not an advanced user, do not change the Names/Spool Directory/File Limit in Kb/Printer Device option.

7 Click the Select button in the Input Filter to access filter setup.

8 Select Samsung Printer PrinThru Compatible for the Printer Type item. Then select the default resolution and paper size.

9 To save the setting, press the OK button.
10 In the Edit xxxx Entry window, press the OK button to complete the printer driver installation.

11 You can find that the printer driver is added to the driver window. Select Quit from the PrintTool menu.

GNU Ghostscript softw are, in directory /linux/gs5.10 and /linux/gs5.50 on this CD is Copyright (C) 1999 Aladdin Enterprise, M enlo Park, California, and other authors as indicated in its documentation.

This softw are is not subject to the End User License Agreement: your rights to this softw are are given by the GNU License, which is in a file called COPYING in that directory.

GNU Ghostscript should be available on all GNU site, such as ftp://ftp.gnu.org/pub/gnu/.

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[^0]:    * Depending on paper thickness, maximum capacity may be reduced.

[^1]:    $\sqrt{N}$ Altitude Correction

